

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION**MEMORANDUM**

Date: 14-November-2012

Subject: **Glyphosate.** Dietary Exposure and Risk Assessment in Support of the Requested Application of Glyphosate to Carrots, Sweet Potato, and Oilseeds (Crop Group (CG) 20) and to Update the CG Definitions for Bulb Vegetable (CG 3-07), Fruiting Vegetable (CG 8-10), Citrus Fruit (CG 10-10), Pome Fruit (CG 11-10), and Berry (CG 13-07).

<b>PC Codes:</b> 417300, 103601, 103613	<b>DP Barcode:</b> D398863
<b>Decision No.:</b> 459870	<b>Registration Nos.:</b> 524-475; 524-537
<b>Petition No.:</b> 2E7979	<b>Regulatory Action:</b> Section 3
<b>Risk Assessment Type:</b> dietary	<b>Case No.:</b> 178
<b>TXR No.:</b> not applicable	<b>CAS No.:</b> 1071-83-6
<b>MRID No.:</b> not applicable	<b>40 CFR:</b> 180.364

From/To: Tom Bloem, Chemist *Tom Bloem*  
Health Effects Division/Risk Assessment Branch 1 (HED/RAB1; 7509P)Through: Meheret Negussie, Chemist, HED/RAB3 *Meheret Negussie*  
Dennis McNeilly, Chemist HED/RAB2 *Dennis McNeilly*  
Dietary Exposure Science Advisory Council (DESAC)George F. Kramer, Ph.D., Senior Chemist *George Kramer* 11/20/12  
HED/RAB1 (7509P)**Executive Summary**

In support of the proposed Section 3 Registrations modifying the currently registered application scenarios for carrot, sweet potato, and the oilseeds (crop group (CG) 20) and in support of the proposed update to the commodity definitions for bulb vegetable (crop group (CG) 3-07), fruiting vegetable (CG 8-10), citrus fruit (CG 10-10), pome fruit (CG 11-10), and berry (CG 13-07), a chronic dietary exposure and risk assessment was conducted. The analysis was conducted using the Dietary Exposure Evaluation Model - Food Consumption Intake Database (DEEM-FCID™, ver. 3.16) which incorporates consumption data from United States Department of Agriculture (USDA) National Health and Nutrition Examination Survey, What We Eat in America, (NHANES/WWEIA; 2003-2008). Acute and cancer dietary risk assessments were not conducted since an appropriate endpoint attributable to a single dose was not identified for the general U.S. population or any population subgroup and glyphosate is classified as not likely to be a human carcinogen, respectively. The chronic analysis assumed tolerance-level residues, 100% crop treated, and DEEM (ver 7.81) default processing factors for all commodities, and modeled drinking water estimates (direct application to water scenario). The resulting chronic risk estimates (food and water) were ≤13% cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population).

## I. Introduction

Dietary risk assessment incorporates both exposure and toxicity of a given pesticide. For acute and chronic assessments, the risk is expressed as a percentage of a maximum acceptable dose (i.e., the dose which HED has concluded will result in no unreasonable adverse health effects). This dose is referred to as the population-adjusted dose (PAD). The PAD is equivalent to point of departure (POD; NOAEL, LOAEL, e.g.) divided by the required uncertainty or safety factors. For acute and non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. HED is generally concerned when estimated cancer risk exceeds one in one million.

References which discuss the acute and chronic risk assessments in more detail are available on the EPA/pesticides web site: "Available Information on Assessing Exposure from Pesticides, A User's Guide," 21-Jun-2000, web link: <http://www.epa.gov/fedrgstr/EPA-PEST/2000/July/Day-12/6061.pdf>; or see SOP 99.6 (20-Aug-1999). The most recent dietary risk assessment for glyphosate can be found in D380165 (T. Bloem, 31-Aug-2010).

## II. Residue Information

*Residues of Concern in Plants and Livestock:* Table 1 is a summary of the conclusion made by HED concerning the residues of concern in primary crops, livestock, rotational crops, and drinking water (D394964, T. Bloem, 15-Nov-2011).

**Table 1: Residues of Concern for Tolerance Expression and Risk Assessment.**

Matrix	Residues Included in Risk Assessment	Residues Included in Tolerance Expression
primary crops (excluding canola, soybean and field corn)	glyphosate	glyphosate
canola, soybean and field corn	glyphosate and N-acetyl-glyphosate	glyphosate and N-acetyl-glyphosate
livestock	glyphosate and N-acetyl-glyphosate	glyphosate and N-acetyl-glyphosate
rotational crops	glyphosate	glyphosate
drinking water	glyphosate	glyphosate

*Recommended Tolerances:* The Interregional Research Project No. 4 (IR-4) requested a Section 3 Registration modifying the currently registered application scenarios for carrot, sweet potato, and the oilseeds (CG 20). IR-4 also proposed updating the crop group (CG) definitions for bulb vegetable (crop group (CG) 3-07), fruiting vegetable (CG 8-10), citrus fruit (CG 10-10), pome fruit (CG 11-10), and berry (CG 13-07). HED reviewed the residue chemistry data submitted in support of these requests and concluded that the tolerances listed in Table 2 are appropriate (tolerance for residues of glyphosate; D398861, T. Bloem, 14-Nov-2012).

**Table 2: Tolerance Summary.**

Commodity	HED-Recommended Tolerance (ppm)
vegetables, root and tuber, group 1, except carrot, sweet potato, and sugar beet	0.20
carrot	5.0
sweet potato	3.0
oilseeds, group 20, except canola	40
vegetable, bulb, group 3-07	0.20
vegetable, fruiting, group 8-10 (except okra)	0.10
fruit, citrus, group 10-10	0.50
fruit, pome, group 11-10	0.20
berry and small fruit, group 13-07	0.20

*Plant Residues Used in the Chronic Risk Assessment:* The chronic analysis assumed tolerance-level residues, 100% crop treated, and DEEM (ver 7.81) default processing factors for all commodities.

## II. Drinking Water Data

In support of the current assessment, the Environmental Fate and Effects Division (EFED) provided the following estimated drinking water concentrations (EDWCs) for glyphosate D398549, J. Hetrick, 16-Oct-2012): surface source water: daily peak - 153.7 µg/L and annual average - 8.11 µg/L; ground water concentrations are not expected to exceed 2.03 µg/L. The surface water estimates were generated using the index reservoir and the registered direct application to water application scenario (3.75 lbs ae/acre). The ground water estimate is based on monitoring data from the National Water-Quality Assessment Program (NAWQA). Therefore, the chronic dietary analysis incorporated a drinking water estimate of 8.11 µg/L.

## IV. DEEM-FCID™ Program and Consumption Information

The glyphosate chronic dietary exposure assessments were conducted using the DEEM-FCID™ (ver. 3.16) which incorporates consumption data from USDA's National Health and Nutrition Examination Survey, What We Eat in America, (NHANES/WWEIA). This dietary survey was conducted from 2003 to 2008. The data are based on the reported consumption of more than 20,000 individuals over two non-consecutive survey days. Foods "as consumed" (e.g., apple pie) are linked to EPA-defined food commodities (e.g., apples, peeled fruit - cooked; fresh or N/S; baked; or wheat flour - cooked; fresh or N/S, baked) using publicly available recipe translation files developed jointly by USDA/ARS and EPA. For chronic exposure assessment, consumption data are averaged for the entire U.S. population and within population subgroups. Based on analysis of the 2003-2008 WWEIA consumption data, which took into account dietary patterns and survey respondents, HED concluded that it is most appropriate to report risk for the following population subgroups: the general U.S. population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, adults 20-49, females 13-49, and adults 50-99 years old.

For chronic dietary exposure assessment, an estimate of the residue level in each food or food-form (e.g., orange or orange juice) on the food commodity residue list is multiplied by the average daily consumption estimate for that food/food form to produce a residue intake estimate. The resulting residue intake estimate for each food/food form is summed with the residue intake estimates for all other food/food forms on the commodity residue list to arrive at the total average estimated exposure. Exposure is expressed in mg/kg body weight/day and as a percent of the cPAD. This procedure is performed for each population subgroup.

#### IV. Toxicological Information

Table 5 below summarizes the endpoints selected for dietary exposure analyses; for more detailed discussion on these endpoints see the HED risk assessment document D398547 (T. Bloem *et al*, 14-Nov-2012).

**Table 5: Summary of Toxicological Doses and Endpoints.**

Exposure/ Scenario	Point of Departure	Uncertainty/FQPA Safety Factors	RfD, PAD, Level of Concern	Study and Toxicological Effects
Acute Dietary	An appropriate endpoint attributable to a single dose was not identified.			
Chronic Dietary (All Populations)	NOAEL = 175 mg/kg/day	UF = 100 FQPA SF = 1x	cRfD = 1.75 mg/kg/day cPAD = 1.75 mg/kg/day	Developmental toxicity study - rabbit; LOAEL = 350 mg/kg/day based on diarrhea, nasal discharge and death in maternal animals.
Cancer	Classification: Group E; no evidence of carcinogenicity; risk assessment not required.			

Point of Departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. NOAEL = no-observed adverse-effect level. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. FQPA SF = FQPA Safety Factor. RfD = reference dose.

#### V. Results/Discussion

The resulting chronic risk estimates (food and water) were  $\leq$ 13% cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population). Table 6 is a summary of the chronic dietary exposure estimates.

**Table 6: Summary of Chronic Dietary Exposure and Risk.**

Population Subgroup	cPAD (mg/kg/day)	Exposure (mg/kg/day)	%cPAD <sup>1</sup>
General U.S. Population		0.088331	5.0
All Infants (< 1 year old)		0.134620	7.7
<b>Children 1-2 years old</b>		<b>0.226241</b>	<b>13</b>
Children 3-5 years old		0.210251	12
Children 6-12 years old		0.146472	8.4
Youth 13-19 years old		0.087318	5.0
Adults 20-49 years old		0.073213	4.2
Adults 50-99 years old		0.059852	3.4
Females 13-49 years old		0.067888	3.9

<sup>1</sup> The bolded %cPAD represents the population with highest risk.

## VI. Characterization of Inputs/Outputs

The chronic analysis is conservative in that it assumed tolerance-level residues, 100% crop treated, and DEEM (ver 7.81) default processing factors for all commodities.

## VII. Conclusions

In support of the proposed Section 3 Registrations modifying the currently registered application scenarios for carrot, sweet potato, and the oilseeds (crop group (CG) 20) and in support of the proposed update to the commodity definitions for bulb vegetable (crop group (CG) 3-07), fruiting vegetable (CG 8-10), citrus fruit (CG 10-10), pome fruit (CG 11-10), and berry (CG 13-07), a chronic dietary risk assessment was conducted. The chronic analysis assumed tolerance-level residues, 100% crop treated, and DEEM (ver 7.81) default processing factors for all commodities, and modeled drinking water estimates (direct application to water scenario). The resulting chronic risk estimates (food and water) were  $\leq 13\%$  cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population).

## VIII. List of Attachments

Attachment 1: DEEM-FCID™ Chronic Residue File.

Attachment 2: DEEM-FCID™ Chronic Exposure Estimates.

T. Bloem:S10945:Potomac Yard 1:703-605-0217:7509P:RAB1

## Attachment 1: DEEM-FCID™ Chronic Residue File.

Filename: C:\Documents and Settings\tbloem.aa\My Documents\work\glyphosate\carrots, sweet potato, teff, and oilseeds\417300C.R08

Chemical: Glyphosate

RfD(Chronic): 1.75 mg/kg bw/day NOEL(Chronic): 175 mg/kg bw/day

RfD(Acute): 0 mg/kg bw/day NOEL(Acute): 0 mg/kg bw/day

Date created/last modified: 07-12-2012/09:01:04 Program ver. 3.16, 03-08-d

Comment: THIS R98 FILE WAS GENERATED USING THE CONVERT TO R98 UTILITY VERSION 1.1.2.

EPA Code	Crop Grp	Commodity Name	Def Res (ppm)	Adj. Factors #1	Adj. Factors #2	Comment
0101050000	1AB	Beet, garden, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101050001	1AB	Beet, garden, roots-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101052000	1A	Beet, sugar Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101052001	1A	Beet, sugar-babyfood Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101053000	1A	Beet, sugar, molasses Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101053001	1A	Beet, sugar, molasses-babyfood Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101067000	1AB	Burdock	0.200000	1.000	1.000	
0101078000	1AB	Carrot Full comment: P 8E3676	5.000000	1.000	1.000	P 8E36
0101078001	1AB	Carrot-babyfood Full comment: P 8E3676	5.000000	1.000	1.000	P 8E36
0101079000	1AB	Carrot, juice Full comment: P 8E3676	5.000000	1.000	1.000	P 8E36
0101084000	1AB	Celeriac	0.200000	1.000	1.000	
0101100000	1AB	Chicory, roots	0.200000	1.000	1.000	
0101168000	1AB	Ginseng, dried Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101190000	1AB	Horseradish Full comment: P 8E3676	0.200000	1.000	1.000	P 8E36
0101250000	1AB	Parsley, turnip rooted	0.200000	1.000	1.000	
0101251000	1AB	Parsnip Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101251001	1AB	Parsnip-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101314000	1AB	Radish, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101316000	1AB	Radish, Oriental, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101327000	1AB	Rutabaga	0.200000	1.000	1.000	
0101331000	1AB	Salsify, roots	0.200000	1.000	1.000	
0101388000	1AB	Turnip, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103015000	1CD	Arrowroot, flour	0.200000	1.000	1.000	
0103015001	1CD	Arrowroot, flour-babyfood	0.200000	1.000	1.000	
0103017000	1CD	Artichoke, Jerusalem Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103082000	1CD	Cassava Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103082001	1CD	Cassava-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103139000	1CD	Dasheen, corm Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103166000	1CD	Ginger Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103166001	1CD	Ginger-babyfood	0.200000	1.000	1.000	

Glyphosate	Dietary Exposure and Risk Assessment					D398863
0103167000 1CD Ginger, dried Full comment: P 7F2016	0.200000	1.000	1.000	P	7F20	
0103296000 1C Potato, chips Full comment: P 7F2016	0.200000	1.000	1.000	P	7F20	
0103297000 1C Potato, dry (granules/ flakes)	0.200000	6.500	1.000			
0103297001 1C Potato, dry (granules/ flakes)-b	0.200000	6.500	1.000			
0103298000 1C Potato, flour Full comment: P 7F2016	0.200000	6.500	1.000	P	7F20	
0103298001 1C Potato, flour-babyfood Full comment: P 7F2016	0.200000	6.500	1.000	P	7F20	
0103299000 1C Potato, tuber, w/peel Full comment: P 7F2016	0.200000	1.000	1.000	P	7F20	
0103299001 1C Potato, tuber, w/peel-babyfood	0.200000	1.000	1.000			
0103300000 1C Potato, tuber, w/o peel Full comment: P 7F2016	0.200000	1.000	1.000	P	7F20	
0103300001 1C Potato, tuber, w/o peel-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P	7F20	
0103366000 1CD Sweet potato Full comment: P 7F2016	3.000000	1.000	1.000	P	7F20	
0103366001 1CD Sweet potato-babyfood Full comment: P 7F2016	3.000000	1.000	1.000	P	7F20	
0103371000 1CD Tanier, corm	0.200000	1.000	1.000			
0103387000 1CD Turmeric Full comment: P 7F2016	0.200000	1.000	1.000	P	7F20	
0103406000 1CD Yam, true Full comment: P 7F2016	0.200000	1.000	1.000	P	7F20	
0103407000 1CD Yam bean Full comment: P 7F2016	0.200000	1.000	1.000	P	7F20	
0200051000 2 Beet, garden, tops Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21	
0200101000 2 Chicory, tops Full comment: P 7F2016 & 8E2122	0.200000	1.000	1.000	P	7F20	
0200140000 2 Dasheen, leaves Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21	
0200315000 2 Radish, tops	0.200000	1.000	1.000			
0200317000 2 Radish, Oriental, tops	0.200000	1.000	1.000			
0200332000 2 Salsify, tops	0.200000	1.000	1.000			
0301165000 3A Garlic, bulb Full comment: P 8E3676	0.200000	1.000	1.000	P	8E36	
0301165001 3A Garlic, bulb-babyfood Full comment: P 8E3676	0.200000	1.000	1.000	P	8E36	
0301237000 3A Onion, bulb Full comment: P 8E3676	0.200000	1.000	1.000	P	8E36	
0301237001 3A Onion, bulb-babyfood Full comment: P 8E3676	0.200000	1.000	1.000	P	8E36	
0301238000 3A Onion, bulb, dried Full comment: P 8E3676	0.200000	9.000	1.000	P	8E36	
0301238001 3A Onion, bulb, dried-babyfood Full comment: P 8E3676	0.200000	9.000	1.000	P	8E36	
0301338000 3A Shallot, bulb	0.200000	1.000	1.000			
0302103000 3B Chive, fresh leaves Full comment: P 9E6003	0.200000	1.000	1.000	P	9E60	
0302198000 3B Leek Full comment: P 8E3676	0.200000	1.000	1.000	P	8E36	
0302239000 3B Onion, green Full comment: P 8E3676	0.200000	1.000	1.000	P	8E36	
0302338500 3B Shallot, fresh leaves	0.200000	1.000	1.000			
0401005000 4A Amaranth, leafy	0.200000	1.000	1.000			
0401018000 4A Arugula Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21	
0401104000 4A Chrysanthemum, garland	0.200000	1.000	1.000			
0401133000 4A Cress, garden	0.200000	1.000	1.000			
0401134000 4A Cress, upland	0.200000	1.000	1.000			
0401138000 4A Dandelion, leaves Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21	

Glyphosate	Dietary Exposure and Risk Assessment	D398863			
0401150000 4A Endive Full comment: P 7F2016 & 8E2122	0.200000	1.000	1.000	P	7F20
0401204000 4A Lettuce, head Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0401205000 4A Lettuce, leaf Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0401248000 4A Parsley, leaves Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0401313000 4A Radicchio Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0401355000 4A Spinach Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0401355001 4A Spinach-babyfood Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0402076000 4B Cardoon	0.200000	1.000	1.000		
0402085000 4B Celery Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0402085001 4B Celery-babyfood Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0402086000 4B Celery, juice Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0402087000 4B Celture	0.200000	1.000	1.000		
0402152000 4B Fennel, Florence	0.200000	1.000	1.000		
0402322000 4B Rhubarb Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0402367000 4B Swiss chard Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501061000 5A Broccoli Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501061001 5A Broccoli-babyfood Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501062000 5A Broccoli, Chinese Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501064000 5A Brussels sprouts Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501069000 5A Cabbage Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501071000 5A Cabbage, Chinese, napa Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501072000 5A Cabbage, Chinese, mustard Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501083000 5A Cauliflower Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0501196000 5A Kohlrabi	0.200000	1.000	1.000		
0502063000 5B Broccoli raab	0.200000	1.000	1.000		
0502070000 5B Cabbage, Chinese, bok choy Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0502117000 5B Collards Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0502194000 5B Kale Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0502229000 5B Mustard greens Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0502318000 5B Rape greens	0.200000	1.000	1.000		
0502389000 5B Turnip, greens Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
0600347000 6 Soybean, seed Full comment: P 5F1536	20.000000	1.000	1.000	P	5F15
0600349000 6 Soybean, soy milk Full comment: P 5F1536	20.000000	1.000	1.000	P	5F15
0600349001 6 Soybean, soy milk-babyfood or in	20.000000	1.000	1.000		
0600350000 6 Soybean, oil Full comment: P 5F1536	20.000000	1.000	1.000	P	5F15
0600350001 6 Soybean, oil-babyfood Full comment: P 5F1536	20.000000	1.000	1.000	P	5F15

Glyphosate	Dietary Exposure and Risk Assessment					D398863
0601043000 6A Bean, snap, succulent Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0601043001 6A Bean, snap, succulent-babyfood Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0601257000 6A Pea, edible podded, succulent Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0602031000 6B Bean, broad, succulent	5.000000	1.000	1.000			
0602033000 6B Bean, cowpea, succulent Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0602037000 6B Bean, lima, succulent Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0602255000 6B Pea, succulent Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0602255001 6B Pea, succulent-babyfood Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0602259000 6B Pea, pigeon, succulent Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603030000 6C Bean, black, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603032000 6C Bean, broad, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603034000 6C Bean, cowpea, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603035000 6C Bean, great northern, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603036000 6C Bean, kidney, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603038000 6C Bean, lima, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603039000 6C Bean, mung, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603040000 6C Bean, navy, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603041000 6C Bean, pink, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603042000 6C Bean, pinto, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603098000 6C Chickpea, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603098001 6C Chickpea, seed-babyfood Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603099000 6C Chickpea, flour	5.000000	1.000	1.000			
0603182000 6C Guar, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603182001 6C Guar, seed-babyfood	5.000000	1.000	1.000			
0603203000 6C Lentil, seed Full comment: P 2E4118	5.000000	1.000	1.000	P 2E41		
0603256000 6C Pea, dry Full comment: P 2E4118	8.000000	1.000	1.000	P 2E41		
0603256001 6C Pea, dry-babyfood Full comment: P 2E4118	8.000000	1.000	1.000	P 2E41		
0603258000 6C Pea, pigeon, seed	8.000000	1.000	1.000			
0603348000 6C Soybean, flour Full comment: P 5F1536	20.000000	1.000	1.000	P 5F15		
0603348001 6C Soybean, flour-babyfood Full comment: P 5F1536	20.000000	1.000	1.000	P 5F15		
0801374000 8A Tomatillo	0.100000	1.000	1.000			
0801375000 8A Tomato	0.100000	1.000	1.000			
0801375001 8A Tomato-babyfood	0.100000	1.000	1.000			
0801376000 8A Tomato, paste	0.100000	5.400	1.000			
0801376001 8A Tomato, paste-babyfood	0.100000	5.400	1.000			
0801377000 8A Tomato, puree	0.100000	3.300	1.000			
0801377001 8A Tomato, puree-babyfood	0.100000	3.300	1.000			
0801378000 8A Tomato, dried	0.100000	14.300	1.000			
0801378001 8A Tomato, dried-babyfood	0.100000	14.300	1.000			

Glyphosate	Dietary Exposure and Risk Assessment					D398863
0801379000 8A Tomato, juice	0.100000	1.500	1.000			
0801380000 8A Tomato, Tree	0.100000	1.000	1.000			
0802148000 8BC Eggplant	0.100000	1.000	1.000			
0802234000 8BC Okra	0.500000	1.000	1.000	P 9E60		
Full comment: P 9E603						
0802270000 8B Pepper, bell	0.100000	1.000	1.000			
0802270001 8B Pepper, bell-babyfood	0.100000	1.000	1.000			
0802271000 8B Pepper, bell, dried	0.100000	1.000	1.000			
0802271001 8B Pepper, bell, dried-babyfood	0.100000	1.000	1.000			
0802272000 8BC Pepper, nonbell	0.100000	1.000	1.000			
0802272001 8BC Pepper, nonbell-babyfood	0.100000	1.000	1.000			
0802273000 8BC Pepper, nonbell, dried	0.100000	1.000	1.000			
0901075000 9A Cantaloupe	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
0901187000 9A Honeydew melon	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
0901399000 9A Watermelon	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
0901400000 9A Watermelon, juice	0.500000	1.000	1.000			
0902021000 9B Balsam pear	0.500000	1.000	1.000			
0902088000 9B Chayote, fruit	0.500000	1.000	1.000			
0902102000 9B Chinese waxgourd	0.500000	1.000	1.000			
0902135000 9B Cucumber	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
0902308000 9B Pumpkin	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
0902309000 9B Pumpkin, seed	0.500000	1.000	1.000			
0902356000 9B Squash, summer	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
0902356001 9B Squash, summer-babyfood	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
0902357000 9B Squash, winter	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
0902357001 9B Squash, winter-babyfood	0.500000	1.000	1.000	P 3E28		
Full comment: P 3E2845						
1001106000 10A Citron	0.500000	1.000	1.000	P 4F43		
Full comment: P 4F4338						
1001107000 10A Citrus hybrids	0.500000	1.000	1.000			
1001108000 10A Citrus, oil	0.500000	1.000	1.000			
1001240000 10A Orange	0.500000	1.000	1.000	P 4F43		
Full comment: P 4F4338						
1001241000 10A Orange, juice	0.500000	1.800	1.000	P 4F43		
Full comment: P 4F4338						
1001241001 10A Orange, juice-babyfood	0.500000	1.800	1.000	P 4F43		
Full comment: P 4F4338						
1001242000 10A Orange, peel	0.500000	1.000	1.000	P 4F43		
Full comment: P 4F4338						
1001369000 10A Tangerine	0.500000	1.000	1.000	P 4F43		
Full comment: P 4F4338						
1001370000 10A Tangerine, juice	0.500000	2.300	1.000	P 4F43		
Full comment: P 4F4338						
1002197000 10B Kumquat	0.500000	1.000	1.000			
1002199000 10B Lemon	0.500000	1.000	1.000	P 4F43		
Full comment: P 4F4338						
1002200000 10B Lemon, juice	0.500000	2.000	1.000	P 4F43		
Full comment: P 4F4338						
1002200001 10B Lemon, juice-babyfood	0.500000	2.000	1.000	P 4F43		
Full comment: P 4F4338						
1002201000 10B Lemon, peel	0.500000	1.000	1.000	P 4F43		
Full comment: P 4F4338						
1002206000 10B Lime	0.500000	1.000	1.000	P 4F43		
Full comment: P 4F4338						
1002207000 10B Lime, juice	0.500000	2.000	1.000	P 4F43		
Full comment: P 4F4338						
1002207001 10B Lime, juice-babyfood	0.500000	2.000	1.000	P 4F43		

		Full comment: P 4F4338				
1003180000	10C	Grapefruit	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1003181000	10C	Grapefruit, juice	0.500000	2.100	1.000	P 4F43
		Full comment: P 4F4338				
1003307000	10C	Pummelo	0.500000	1.000	1.000	
1100007000	11	Apple, fruit with peel	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100008000	11	Apple, peeled fruit	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100008001	11	Apple, peeled fruit-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100009000	11	Apple, dried	0.200000	8.000	1.000	P 6F18
		Full comment: P 6F1861				
1100009001	11	Apple, dried-babyfood	0.200000	8.000	1.000	P 6F18
		Full comment: P 6F1861				
1100010000	11	Apple, juice	0.200000	1.300	1.000	P 6F18
		Full comment: P 6F1861				
1100010001	11	Apple, juice-babyfood	0.200000	1.300	1.000	P 6F18
		Full comment: P 6F1861				
1100011000	11	Apple, sauce	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100011001	11	Apple, sauce-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100129000	11	Crabapple	0.200000	1.000	1.000	
1100173500	11	Goji berry	0.100000	1.000	1.000	
1100210000	11	Loquat	0.200000	1.000	1.000	
1100266000	11	Pear	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100266001	11	Pear-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100267000	11	Pear, dried	0.200000	6.250	1.000	P 6F18
		Full comment: P 6F1861				
1100268000	11	Pear, juice	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100268001	11	Pear, juice-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100310000	11	Quince	0.200000	1.000	1.000	
1201090000	12A	Cherry	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1201090001	12A	Cherry-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1201091000	12A	Cherry, juice	0.200000	1.500	1.000	P 2600
		Full comment: P 260044				
1201091001	12A	Cherry, juice-babyfood	0.200000	1.500	1.000	P 2600
		Full comment: P 260044				
1202012000	12B	Apricot	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202012001	12B	Apricot-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202013000	12B	Apricot, dried	0.200000	6.000	1.000	P 2600
		Full comment: P 260044				
1202014000	12B	Apricot, juice	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202014001	12B	Apricot, juice-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202230000	12B	Nectarine	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202260000	12B	Peach	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202260001	12B	Peach-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202261000	12B	Peach, dried	0.200000	7.000	1.000	P 2600
		Full comment: P 260044				
1202261001	12B	Peach, dried-babyfood	0.200000	7.000	1.000	

Glyphosate	Dietary Exposure and Risk Assessment					D398863
1202262000 12B Peach, juice Full comment: P 260044	0.200000	1.000	1.000	P 2600		
1202262001 12B Peach, juice-babyfood Full comment: P 260044	0.200000	1.000	1.000	P 2600		
1203285000 12C Plum Full comment: P 260044	0.200000	1.000	1.000	P 2600		
1203285001 12C Plum-babyfood Full comment: P 260044	0.200000	1.000	1.000	P 2600		
1203286000 12C Plum, prune, fresh Full comment: P 260044	0.200000	1.000	1.000	P 2600		
1203286001 12C Plum, prune, fresh-babyfood Full comment: P 260044	0.200000	1.000	1.000	P 2600		
1203287000 12C Plum, prune, dried Full comment: P 260044	0.200000	5.000	1.000	P 2600		
1203287001 12C Plum, prune, dried-babyfood	0.200000	5.000	1.000			
1203288000 12C Plum, prune, juice Full comment: P 260044	0.200000	1.400	1.000	P 2600		
1203288001 12C Plum, prune, juice-babyfood Full comment: P 260044	0.200000	1.400	1.000	P 2600		
1301055000 13A Blackberry Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1301056000 13A Blackberry, juice Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1301056001 13A Blackberry, juice-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1301058000 13A Boysenberry Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1301208000 13A Loganberry	0.200000	1.000	1.000			
1301320000 13A Raspberry Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1301320001 13A Raspberry-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1301321000 13A Raspberry, juice Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1301321001 13A Raspberry, juice-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1302057000 13B Blueberry Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1302057001 13B Blueberry-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1302136000 13B Currant Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1302137000 13B Currant, dried Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1302149000 13B Elderberry	0.200000	1.000	1.000			
1302174000 13B Gooseberry	0.200000	1.000	1.000			
1302191000 13B Huckleberry Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1303227000 13C Mulberry	0.200000	1.000	1.000			
1304175000 13D Grape Full comment: P 5F1560	0.200000	1.000	1.000	P 5F15		
1304176000 13D Grape, juice Full comment: P 5F1560	0.200000	1.200	1.000	P 5F15		
1304176001 13D Grape, juice-babyfood Full comment: P 5F1560	0.200000	1.200	1.000	P 5F15		
1304179000 13D Grape, wine and sherry Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1304195000 13D Kiwifruit, fuzzy Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29		
1307130000 13G Cranberry Full comment: P 0E2421	0.200000	1.000	1.000	P 0E24		
1307130001 13G Cranberry-babyfood Full comment: P 0E2421	0.200000	1.000	1.000	P 0E24		
1307131000 13G Cranberry, dried Full comment: P 0E2421	0.200000	1.000	1.000	P 0E24		

Glyphosate	Dietary Exposure and Risk Assessment					D398863
1307132000 13G Cranberry, juice Full comment: P 0E2421	0.200000	1.100	1.000	P 0E24		
1307132001 13G Cranberry, juice-babyfood Full comment: P 0E2421	0.200000	1.100	1.000	P 0E24		
1307359000 13G Strawberry Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1307359001 13G Strawberry-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1307360000 13G Strawberry, juice Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1307360001 13G Strawberry, juice-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P 3E29		
1400003000 14 Almond Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1400003001 14 Almond-babyfood	1.000000	1.000	1.000			
1400004000 14 Almond, oil Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1400004001 14 Almond, oil-babyfood	1.000000	1.000	1.000			
1400059000 14 Brazil nut Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1400068000 14 Butternut	1.000000	1.000	1.000			
1400081000 14 Cashew Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1400092000 14 Chestnut Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1400155000 14 Hazelnut Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1400156000 14 Hazelnut, oil	1.000000	1.000	1.000			
1400185000 14 Hickory nut	1.000000	1.000	1.000			
1400213000 14 Macadamia nut Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1400269000 14 Pecan Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1400278000 14 Pine nut Full comment: P 9E6003	1.000000	1.000	1.000	P 9E60		
1400282000 14 Pistachio Full comment: P 9E6003	1.000000	1.000	1.000	P 9E60		
1400391000 14 Walnut Full comment: P 7F1893	1.000000	1.000	1.000	P 7F18		
1500025000 15 Barley, pearled barley Full comment: P 2E4118	30.000000	1.000	1.000	P 2E41		
1500025001 15 Barley, pearled barley-babyfood Full comment: P 2E4118	30.000000	1.000	1.000	P 2E41		
1500026000 15 Barley, flour Full comment: P 2E4118	30.000000	1.000	1.000	P 2E41		
1500026001 15 Barley, flour-babyfood Full comment: P 2E4118	30.000000	1.000	1.000	P 2E41		
1500027000 15 Barley, bran Full comment: P 2E4118	30.000000	1.000	1.000	P 2E41		
1500065000 15 Buckwheat Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21		
1500066000 15 Buckwheat, flour	30.000000	1.000	1.000			
1500120000 15 Corn, field, flour Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36		
1500120001 15 Corn, field, flour-babyfood Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36		
1500121000 15 Corn, field, meal Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36		
1500121001 15 Corn, field, meal-babyfood	5.000000	1.000	1.000			
1500122000 15 Corn, field, bran Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36		
1500123000 15 Corn, field, starch Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36		
1500123001 15 Corn, field, starch-babyfood Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36		

<u>Glyphosate</u>	<u>Dietary Exposure and Risk Assessment</u>					<u>D398863</u>
1500124000 15 Corn, field, syrup Full comment: P 8F3673	5.000000	1.500	1.000	P 8F36		
1500124001 15 Corn, field, syrup-babyfood Full comment: P 8F3673	5.000000	1.500	1.000	P 8F36		
1500125000 15 Corn, field, oil Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36		
1500125001 15 Corn, field, oil-babyfood Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36		
1500126000 15 Corn, pop Full comment: P 8E2122	0.100000	1.000	1.000	P 8E21		
1500127000 15 Corn, sweet Full comment: P 8E2122	3.500000	1.000	1.000	P 8E21		
1500127001 15 Corn, sweet-babyfood Full comment: P 8E2122	3.500000	1.000	1.000	P 8E21		
1500226000 15 Millet, grain Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21		
1500231000 15 Oat, bran Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46		
1500232000 15 Oat, flour Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46		
1500232001 15 Oat, flour-babyfood Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46		
1500233000 15 Oat, groats/rolled oats Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46		
1500233001 15 Oat, groats/rolled oats-babyfood Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46		
1500323000 15 Rice, white	0.100000	1.000	1.000			
1500323001 15 Rice, white-babyfood	0.100000	1.000	1.000			
1500324000 15 Rice, brown	0.100000	1.000	1.000			
1500324001 15 Rice, brown-babyfood	0.100000	1.000	1.000			
1500325000 15 Rice, flour	0.100000	1.000	1.000			
1500325001 15 Rice, flour-babyfood	0.100000	1.000	1.000			
1500326000 15 Rice, bran	0.100000	1.000	1.000			
1500326001 15 Rice, bran-babyfood	0.100000	1.000	1.000			
1500328000 15 Rye, grain Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21		
1500329000 15 Rye, flour	30.000000	1.000	1.000			
1500344000 15 Sorghum, grain	30.000000	1.000	1.000			
1500345000 15 Sorghum, syrup	30.000000	1.000	1.000			
1500381000 15 Triticale, flour	30.000000	1.000	1.000			
1500381001 15 Triticale, flour-babyfood	30.000000	1.000	1.000			
1500401000 15 Wheat, grain Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21		
1500401001 15 Wheat, grain-babyfood Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21		
1500402000 15 Wheat, flour	30.000000	1.000	1.000			
1500402001 15 Wheat, flour-babyfood	30.000000	1.000	1.000			
1500403000 15 Wheat, germ Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21		
1500404000 15 Wheat, bran Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21		
1500405000 15 Wild rice Full comment: P 8E2122	0.100000	1.000	1.000	P 8E21		
1800002000 18 Alfalfa, seed	0.500000	1.000	1.000			
1901028000 19A Basil, fresh leaves Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60		
1901028001 19A Basil, fresh leaves-babyfood	0.200000	1.000	1.000			
1901029000 19A Basil, dried leaves Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60		
1901029001 19A Basil, dried leaves-babyfood Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60		
1901102500 19A Chive, dried leaves	0.200000	1.000	1.000			
1901118000 19A Cilantro, leaves Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60		
1901118001 19A Cilantro, leaves-babyfood	0.200000	1.000	1.000			

Glyphosate	Dietary Exposure and Risk Assessment					D398863
1901144000 19A Dillweed Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60		
1901184000 19A Herbs, other	0.200000	1.000	1.000			
1901184001 19A Herbs, other-babyfood	0.200000	1.000	1.000			
1901202000 19A Lemongrass	0.200000	1.000	1.000			
1901220000 19A Marjoram Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60		
1901220001 19A Marjoram-babyfood Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60		
1901249000 19A Parsley, dried leaves Full comment: P 8E2122	0.200000	1.000	1.000	P 8E21		
1901249001 19A Parsley, dried leaves-babyfood Full comment: P 8E2122	0.200000	1.000	1.000	P 8E21		
1901334000 19A Savory Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60		
1902105000 19B Cinnamon Full comment: P 9E6003	7.000000	1.000	1.000	P 9E60		
1902105001 19B Cinnamon-babyfood Full comment: P 9E6003	7.000000	1.000	1.000	P 9E60		
1902119000 19B Coriander, seed Full comment: P 9E6003	7.000000	1.000	1.000	P 9E60		
1902119001 19B Coriander, seed-babyfood	7.000000	1.000	1.000			
1902143000 19B Dill, seed Full comment: P 9E6003	7.000000	1.000	1.000	P 9E60		
1902274000 19B Pepper, black and white Full comment: P 9E6003	7.000000	1.000	1.000	P 9E60		
1902274001 19B Pepper, black and white-babyfood Full comment: P 9E6003	7.000000	1.000	1.000	P 9E60		
1902354000 19B Spices, other	7.000000	1.000	1.000			
1902354001 19B Spices, other-babyfood	7.000000	1.000	1.000			
2001163000 20A Flax seed, oil Full comment: 00ND0025 (S18)	40.000000	1.000	1.000	00ND00		
2001319000 20A Rapeseed, oil Full comment: P 2E4118	20.000000	1.000	1.000	P 2E41		
2001319001 20A Rapeseed, oil-babyfood Full comment: P 2E4118	20.000000	1.000	1.000	P 2E41		
2001336000 20A Sesame, seed Full comment: P 9E6003	40.000000	1.000	1.000	P 9E60		
2001336001 20A Sesame, seed-babyfood	40.000000	1.000	1.000			
2001337000 20A Sesame, oil Full comment: P 9E6003	40.000000	1.000	1.000	P 9E60		
2001337001 20A Sesame, oil-babyfood	40.000000	1.000	1.000			
2002330000 20B Safflower, oil Full comment: P 9E6003	40.000000	1.000	1.000	P 9E60		
2002330001 20B Safflower, oil-babyfood Full comment: P 9E6003	40.000000	1.000	1.000	P 9E60		
2002364000 20B Sunflower, seed Full comment: P 6F3408	40.000000	1.000	1.000	P 6F34		
2002365000 20B Sunflower, oil Full comment: P 6F3408	40.000000	1.000	1.000	P 6F34		
2002365001 20B Sunflower, oil-babyfood Full comment: P 6F3408	40.000000	1.000	1.000	P 6F34		
2003114001 20C Coconut, oil-babyfood Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26		
2003128000 20C Cottonseed, oil	40.000000	1.000	1.000			
2003128001 20C Cottonseed, oil-babyfood	40.000000	1.000	1.000			
3100046000 31 Beef, meat byproducts	5.000000	1.000	1.000			
3100046001 31 Beef, meat byproducts-babyfood	5.000000	1.000	1.000			
3100048000 31 Beef, kidney Full comment: P 4F4312	5.000000	1.000	1.000	P 4F43		
3100049000 31 Beef, liver Full comment: P OF2329	5.000000	1.000	1.000	P OF23		
3100049001 31 Beef, liver-babyfood Full comment: P OF2329	5.000000	1.000	1.000	P OF23		
3200170000 32 Goat, meat byproducts	5.000000	1.000	1.000			

Glyphosate		Dietary Exposure and Risk Assessment			D398863
3200172000 32	Goat, kidney	5.000000	1.000	1.000	
3200173000 32	Goat, liver	5.000000	1.000	1.000	
3400291000 34	Pork, skin	5.000000	1.000	1.000	
3400292000 34	Pork, meat byproducts	5.000000	1.000	1.000	
3400292001 34	Pork, meat byproducts-babyfood	5.000000	1.000	1.000	
3400294000 34	Pork, kidney	5.000000	1.000	1.000	
3400295000 34	Pork, liver	5.000000	1.000	1.000	P OF23
	Full comment: P OF2329				
3500340000 35	Sheep, meat byproducts	5.000000	1.000	1.000	
3500342000 35	Sheep, kidney	5.000000	1.000	1.000	
3500343000 35	Sheep, liver	5.000000	1.000	1.000	
4000093000 40	Chicken, meat	0.100000	1.000	1.000	P 9F50
	Full comment: P 9F5096				
4000093001 40	Chicken, meat-babyfood	0.100000	1.000	1.000	P 9F50
	Full comment: P 9F5096				
4000094000 40	Chicken, liver	1.000000	1.000	1.000	P 9F50
	Full comment: P 9F5096				
4000095000 40	Chicken, meat byproducts	1.000000	1.000	1.000	P 9F50
	Full comment: P 9F5096				
4000095001 40	Chicken, meat byproducts-babyfoo	1.000000	1.000	1.000	P 9F50
	Full comment: P 9F5096				
4000097000 40	Chicken, skin	1.000000	1.000	1.000	
4000097001 40	Chicken, skin-babyfood	1.000000	1.000	1.000	
5000382000 50	Turkey, meat	0.100000	1.000	1.000	P OF23
	Full comment: P OF2329				
5000382001 50	Turkey, meat-babyfood	0.100000	1.000	1.000	P OF23
	Full comment: P OF2329				
5000383000 50	Turkey, liver	1.000000	1.000	1.000	
5000383001 50	Turkey, liver-babyfood	1.000000	1.000	1.000	
5000384000 50	Turkey, meat byproducts	1.000000	1.000	1.000	P OF23
	Full comment: P OF2329				
5000384001 50	Turkey, meat byproducts-babyfood	1.000000	1.000	1.000	P OF23
	Full comment: P OF2329				
5000386000 50	Turkey, skin	1.000000	1.000	1.000	
5000386001 50	Turkey, skin-babyfood	1.000000	1.000	1.000	
6000301000 60	Poultry, other, meat	0.100000	1.000	1.000	P 9E60
	Full comment: P 9E6003				
6000302000 60	Poultry, other, liver	1.000000	1.000	1.000	
6000303000 60	Poultry, other, meat byproducts	1.000000	1.000	1.000	
6000305000 60	Poultry, other, skin	1.000000	1.000	1.000	
7000145000 70	Egg, whole	0.050000	1.000	1.000	P 9F5
	Full comment: P 9F5096				
7000145001 70	Egg, whole-babyfood	0.050000	1.000	1.000	P 9F5
	Full comment: P 9F5096				
7000146000 70	Egg, white	0.050000	1.000	1.000	P 9F5
	Full comment: P 9F5096				
7000146001 70	Egg, white (solids)-babyfood	0.050000	1.000	1.000	
7000147000 70	Egg, yolk	0.050000	1.000	1.000	P 9F5
	Full comment: P 9F5096				
7000147001 70	Egg, yolk-babyfood	0.050000	1.000	1.000	P 9F5
	Full comment: P 9F5096				
8000157000 80	Fish-freshwater finfish	0.250000	1.000	1.000	P 9F21
	Full comment: P 9F2163				
8000158000 80	Fish-freshwater finfish, farm ra	0.250000	1.000	1.000	P 9F21
	Full comment: P 9F2163				
8000159000 80	Fish-saltwater finfish, tuna	0.250000	1.000	1.000	P 9F21
	Full comment: P 9F2163				
8000160000 80	Fish-saltwater finfish, other	0.250000	1.000	1.000	P 9F21
	Full comment: P 9F2163				
8000161000 80	Fish-shellfish, crustacean	3.000000	1.000	1.000	P 3F29
	Full comment: P 3F2956				
8000162000 80	Fish-shellfish, mollusc	3.000000	1.000	1.000	P 3F29
	Full comment: P 3F2956				
8601000000 86A	Water, direct, all sources	0.008110	1.000	1.000	
8602000000 86B	Water, indirect, all sources	0.008110	1.000	1.000	

Glyphosate	Dietary Exposure and Risk Assessment				D398863
9500001000 O Acerola	0.200000	1.000	1.000		
9500016000 O Artichoke, globe Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60	
9500019000 O Asparagus Full comment: P 8E3648	0.500000	1.000	1.000	P 8E36	
9500019500 O Atemoya	0.200000	1.000	1.000		
9500020000 O Avocado Full comment: P 8F2021	0.200000	1.000	1.000	P 8F20	
9500022000 O Bamboo, shoots Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60	
9500023000 O Banana Full comment: P 9F2223	0.200000	1.000	1.000	P 9F22	
9500023001 O Banana-babyfood Full comment: P 9F2223	0.200000	1.000	1.000	P 9F22	
9500024000 O Banana, dried Full comment: P 9F2223	0.200000	3.900	1.000	P 9F22	
9500024001 O Banana, dried-babyfood Full comment: P 9F2223	0.200000	3.900	1.000	P 9F22	
9500060000 O Breadfruit Full comment: P 9E3754	0.200000	1.000	1.000	P 9E37	
9500073000 O Cactus	0.500000	1.000	1.000		
9500074000 O Canistel	0.200000	1.000	1.000		
9500089000 O Cherimoya	0.200000	1.000	1.000		
9500109000 O Cocoa bean, chocolate Full comment: P 0E3857	0.200000	1.000	1.000	P 0E38	
9500110000 O Cocoa bean, powder Full comment: P 0E3857	0.200000	1.000	1.000	P 0E38	
9500111000 O Coconut, meat Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26	
9500111001 O Coconut, meat-babyfood Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26	
9500112000 O Coconut, dried Full comment: P 2F2680	0.100000	2.100	1.000	P 2F26	
9500113000 O Coconut, milk Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26	
9500114000 O Coconut, oil Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26	
9500115000 O Coffee, roasted bean Full comment: P 6E1809	1.000000	1.000	1.000	P 6E18	
9500116000 O Coffee, instant Full comment: P 6E1809	1.000000	1.000	1.000	P 6E18	
9500141000 O Date Full comment: P 9E3754	0.200000	1.000	1.000	P 9E37	
9500151000 O Feijoa	0.200000	1.000	1.000		
9500153000 O Fig Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29	
9500154000 O Fig, dried Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29	
9500177000 O Grape, leaves	0.200000	1.000	1.000		
9500178000 O Grape, raisin Full comment: P 5F1560	0.200000	4.300	1.000	P 5F15	
9500183000 O Guava Full comment: P 1E2443	0.200000	1.000	1.000	P 1E24	
9500183001 O Guava-babyfood	0.200000	1.000	1.000		
9500188000 O Hop	7.000000	1.000	1.000		
9500193000 O Jackfruit	0.200000	1.000	1.000		
9500209000 O Longan	0.200000	1.000	1.000		
9500211000 O Lychee	0.200000	1.000	1.000		
9500212000 O Lychee, dried	0.200000	1.850	1.000		
9500214000 O Mamey apple	0.200000	1.000	1.000		
9500215000 O Mango Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24	
9500215001 O Mango-babyfood Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24	
9500216000 O Mango, dried	0.200000	1.000	1.000	P 1E24	

Glyphosate	Dietary Exposure and Risk Assessment	D398863
------------	--------------------------------------	---------

	Full comment: P 1E2490				
9500217000 O	Mango, juice Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24
9500217001 O	Mango, juice-babyfood Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24
9500235000 O	Olive Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29
9500236000 O	Olive, oil Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29
9500243000 O	Palm heart, leaves Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60
9500244000 O	Palm, oil Full comment: P 6H5115	0.100000	1.000	1.000	P 6H51
9500244001 O	Palm, oil-babyfood Full comment: P 6H5115	0.100000	1.000	1.000	P 6H51
9500245000 O	Papaya Full comment: P 1E2443	0.200000	1.000	1.000	P 1E24
9500245001 O	Papaya-babyfood Full comment: P 1E2443	0.200000	1.000	1.000	
9500246000 O	Papaya, dried Full comment: P 1E2443	0.200000	1.800	1.000	P 1E24
9500247000 O	Papaya, juice Full comment: P 1E2443	0.200000	1.500	1.000	P 1E24
9500252000 O	Passionfruit Full comment: P 9E3715	0.200000	1.000	1.000	P 9E37
9500252001 O	Passionfruit-babyfood Full comment: P 9E3715	0.200000	1.000	1.000	
9500253000 O	Passionfruit, juice Full comment: P 9E3715	0.200000	1.000	1.000	P 9E37
9500253001 O	Passionfruit, juice-babyfood Full comment: P 0F2329	0.200000	1.000	1.000	
9500254000 O	Pawpaw Full comment: P 0F2329	0.200000	1.000	1.000	
9500263000 O	Peanut Full comment: P 0F2329	0.100000	1.000	1.000	P 0F23
9500264000 O	Peanut, butter Full comment: P 0F2329	0.100000	1.890	1.000	
9500265000 O	Peanut, oil Full comment: P 0F2329	0.100000	1.000	1.000	P 0F23
9500275000 O	Peppermint Full comment: P 2F2634	200.000000	1.000	1.000	
9500276000 O	Peppermint, oil Full comment: P 2F2634	200.000000	1.000	1.000	
9500277000 O	Persimmon Full comment: P 9E3754	0.200000	1.000	1.000	P 9E37
9500279000 O	Pineapple Full comment: P 2F2634	0.100000	1.000	1.000	P 2F26
9500279001 O	Pineapple-babyfood Full comment: P 2F2634	0.100000	1.000	1.000	P 2F26
9500280000 O	Pineapple, dried Full comment: P 2F2634	0.100000	5.000	1.000	P 2F26
9500281000 O	Pineapple, juice Full comment: P 2F2634	0.100000	1.700	1.000	P 2F26
9500281001 O	Pineapple, juice-babyfood Full comment: P 2F2634	0.100000	1.700	1.000	P 2F26
9500283000 O	Plantain Full comment: P 9F2223	0.200000	1.000	1.000	P 9F22
9500284000 O	Plantain, dried Full comment: P 9F2223	0.200000	3.900	1.000	P 9F22
9500289000 O	Pomegranate Full comment: P 1E3978	0.200000	1.000	1.000	P 1E39
9500311000 O	Quinoa, grain Full comment: P 6E3424	5.000000	1.000	1.000	
9500333000 O	Sapote, Mamey Full comment: P 6E3424	0.200000	1.000	1.000	
9500346000 O	Soursop Full comment: P 6E3424	0.200000	1.000	1.000	
9500351000 O	Spanish lime Full comment: P 6E3424	0.200000	1.000	1.000	
9500352000 O	Spearmint Full comment: P 6E3424	200.000000	1.000	1.000	
9500353000 O	Spearmint, oil Full comment: P 6E3424	200.000000	1.000	1.000	
9500358000 O	Starfruit Full comment: P 6E3424	0.200000	1.000	1.000	P 6E34
9500361000 O	Sugar apple Full comment: P 6E3424	0.200000	1.000	1.000	
9500362000 O	Sugarcane, sugar Full comment: P 6E3424	2.000000	1.000	1.000	
9500362001 O	Sugarcane, sugar-babyfood Full comment: P 6E3424	2.000000	1.000	1.000	

GlyphosateDietary Exposure and Risk Assessment

D398863

9500363000 O Sugarcane, molasses Full comment: P 9H5196	30.000000	1.000	1.000	P 9H51
9500363001 O Sugarcane, molasses-babyfood Full comment: P 9H5196	30.000000	1.000	1.000	P 9H51
9500368000 O Tamarind	0.200000	1.000	1.000	
9500372000 O Tea, dried Full comment: P 1H5310 & 8H5568	1.000000	1.000	1.000	P 1H53
9500373000 O Tea, instant Full comment: P 1H5310 & 8H5568	7.000000	1.000	1.000	P 1H53
9500373500 O Teff, flour	5.000000	1.000	1.000	
9500398000 O Watercress Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60

## Attachment 2: DEEM-FCID™ Chronic Exposure Estimates.

U.S. EPA

Ver. 3.16, 03-08-d

DEEM-FCID Chronic analysis for GLYPHOSATE

NHANES 2003-2008 2-day

Residue file name: C:\Documents and Settings\tbloem.aa\My  
Documents\work\glyphosate\carrots, sweet potato, teff, and oilseeds\417300C.R08

Adjustment factor #2 used.

Analysis Date 10-22-2012/08:25:36

Residue file dated: 10-22-2012/08:24:49

Reference dose (RfD, Chronic) = 1.75 mg/kg bw/day

COMMENT 1: THIS R98 FILE WAS GENERATED USING THE CONVERT TO R98 UTILITY VERSION 1.1.2.

=====  
Total exposure by population subgroup

Population Subgroup	Total Exposure	
	mg/kg body wt/day	Percent of Rfd
Total US Population	0.088331	5.0%
Hispanic	0.091762	5.2%
Non-Hisp-White	0.088168	5.0%
Non-Hisp-Black	0.083973	4.8%
Non-Hisp-Other	0.091923	5.3%
Nursing Infants	0.069394	4.0%
Non-Nursing Infants	0.163751	9.4%
Female 13+ PREG	0.073690	4.2%
Children 1-6	0.214756	12.3%
Children 7-12	0.136738	7.8%
Male 13-19	0.095131	5.4%
Female 13-19/NP	0.079836	4.6%
Male 20+	0.074548	4.3%
Female 20+/NP	0.061050	3.5%
Seniors 55+	0.058215	3.3%
All Infants	0.134620	7.7%
Female 13-50	0.067547	3.9%
Children 1-2	0.226241	12.9%
Children 3-5	0.210251	12.0%
Children 6-12	0.146472	8.4%
Youth 13-19	0.087318	5.0%
Adults 20-49	0.073213	4.2%
Adults 50-99	0.059852	3.4%
Female 13-49	0.067888	3.9%